

## **REMARKS**

### **1. Introduction**

Applicants note with appreciation the Examiner's indication that the references cited in the Information Disclosure Statement (IDS) of August 16, 2007 have been considered and made of record.

Upon entry of the foregoing amendment, claims 1-3 and 5-30 are pending in the present application. No claims have been added or cancelled. Claim 30 has been amended without introducing new matter. In view of the following remarks, allowance of claims 1-3 and 5-30 is respectfully requested.

### **2. Double Patenting**

In the Office Action, the Examiner rejected claims 1-3 and 5-30 on the ground of non-statutory obviousness-type double patenting as being unpatentable over claims 1-15 of co-pending U.S. Patent Application No. 10/949,705. In response, Applicants are submitting a terminal disclaimer disclaiming any patent term extending beyond the expiration date of a patent granted on the above-identified co-pending application. Accordingly, Applicants request that the Examiner withdraw the double patenting rejection.

### **3. Interview of July 25, 2007**

In the interview with Examiner Chow and Supervisory Patent Examiner Mengistu, it was agreed that Ely does not teach each of the features of claims 1, 9, and 17. Applicants note that the Examiner has again relied on Ely as allegedly teaching each of the features of claims 1, 9, and 17 that were previously discussed in the interview. Although the Examiner has now rejected these claims under 35 U.S.C. 103(a) instead of 102(e), it is essentially the same rejection discussed in the interview, because the Examiner does not rely on the secondary reference (Rodgers) for teaching any of the features of claims 9 and 17. Although it is certainly within the Examiner's discretion to

change his mind as to the interpretation of a reference or Applicants' claim, the Examiner has not provided any reason why Ely should now be applied in the same manner in which it was applied in the Office Action of May 17, 2007, especially in light of the fact that the Examiner agreed that Ely does not teach the features of these claims.

#### **4. Rejection of Claim 30 Under 102(b)**

Claim 30 has been rejected under 35 U.S.C. 102(b) as allegedly being anticipated by U.S. Patent No. 5,635,684 to Fukuzaki, which is owned by the Assignee of the present invention, Wacom Co. Ltd. Applicants traverse this rejection for the following reasons.

Applicants have amended independent claim 30 to recite "said transmission coils and said sensor coils being different coils." Applicants submit that Fukuzaki does not teach this feature.

Fukuzaki is directed to a coordinate input device having an array of antennas that are used both to transmit an outgoing signal to the position indicator and to receive an incoming signal from the position indicator. *See* column 5, lines 55-61 of Fukuzaki. Fukuzaki's switch circuit 106b shown in FIG. 1 switches between the transmission state and the reception state, while the antenna select circuit 105b selects the antenna to be used for transmission and reception. However, all of the antenna x1 to xn of Fukuzaki are used for both transmission and reception. Therefore, Fukuzaki does not teach "a plurality of sensor coils for sensing a position indicating signal transmitted from the position pointer... a plurality of transmission coils for transmitting a pointer exciting signal to the position pointer..., *said transmission coils and said sensor coils being different coils,*" as recited in claim 30. In contrast with the present invention, all of Fukuzaki's antennas are the same, because they perform transmission and reception functions. In column 4, lines 12-23, Fukuzaki describes the scanning method as follows:

[A] method is provided in which, firstly, in transmission an antenna is always selected which is predicted to be the most proximate antenna to a position indicator. Via said antenna, a signal is then transmitted to said position indicator, and all antennae are scanned to get signal characteristic distribution required for a coordinate detection in receiving the electromagnetic waves reflected back from the position indicator due to the electromagnetic interaction effect between them in response to the transmitted signal.

It is evident from this description that the selected antenna used to transmit to the position indicator is also used to receive a signal from the position indicator. Because all of Fukuzaki's antennas are the same in that they perform both functions, Fukuzaki's device does not have "a plurality of sensor coils for sensing a position indicating signal transmitted from the position pointer... a plurality of transmission coils for transmitting a pointer exciting signal to the position pointer..., said transmission coils and said sensor coils being different coils," as recited in claim 30.

Furthermore, on page 5 of the Office Action of October 29, 2007, the Examiner alleges:

Fukuzaki discloses a position detector...comprising...a plurality of transmission coils...and a transmission coil selector...for selectively driving current in said transmission coils so that the pointer exciting signal transmitted to the position pointer maintains the same polarity regardless of the position of the position pointer with respect to the sensor area.

The Examiner cites column 4, lines 23 to 31 of Fukuzaki as allegedly providing support for this assertion. However, Applicants respectfully note that the passage being cited by the Examiner does not teach "a transmission coil selector...for selectively driving current in said transmission coils so that the pointer exciting signal transmitted to the position pointer maintains the same polarity regardless of the position of the position pointer with respect to the sensor area," as recited in claim 30. In fact, nowhere in the reference does Fukuzaki make any teaching, suggestion, or mention relating to the "polarity" of "the pointer exciting signal." Because Fukuzaki does not make any teaching or suggestion about the polarity of the pointer exciting signal, Fukuzaki cannot teach or suggest that "the pointer exciting signal transmitted to the position pointer maintains the same polarity regardless of the position of the position pointer with respect to the sensor area," as recited in claim 30. Therefore, it is respectfully submitted that Fukuzaki does not teach or suggest each of the features of claim 30.

To the extent that the Examiner is attempting to rely on a theory of inherency, Applicants submit that Fukuzaki's device does not inherently provide a "pointer exciting signal transmitted to the position pointer maintains the same polarity regardless of the position of the position pointer with respect to the sensor area," as recited in claim 30, nor

has the Examiner provided any evidence that this feature is necessarily inherent in Fukuzaki. On the contrary, because the only criteria used by Fukuzaki's device is to select the closest antenna to transmit to the position indicator (see column 6, lines 10-12 of Fukuzaki), Fukuzaki's device must transmit signals having different polarities. Fukuzaki's device does not concern itself with the direction or polarity of the magnetic field applied by the current flowing in the selected antenna, because Fukuzaki's device selects the closest antenna without regard to whether this antenna causes a magnetic field of a positive polarity or whether the antenna causes a magnetic field of a negative polarity. The polarity of the magnetic field transmitted to the position indicator depends on the orientation of the current flowing in the transmitting antenna with respect to the position indicator. This follows from a routine application of the right hand rule for determining orientation of the magnetic field. When the position indicator is located between two parallel antennas which carry current in the same direction, each antenna applies a magnetic field of opposite polarity to the position indicator. Because there will be instances in which the position indicator is close to each one of the antennas, selecting from the antennas based on proximity would inevitably provide instances in which the magnetic field signal provided to the position indicator is positive and instances in which the magnetic field signal provided to the position indicator is negative. Therefore, Fukuzaki does not disclose "pointer exciting signal transmitted to the position pointer maintains the same polarity regardless of the position of the position pointer with respect to the sensor area," as recited in independent claim 30.

Because Fukuzaki fails to disclose (1) "pointer exciting signal transmitted to the position pointer maintains the same polarity regardless of the position of the position pointer with respect to the sensor area" and (2) "said transmission coils and said sensor coils being different coils," Fukuzaki does not anticipate claim 30.

"A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference." Verdegaal Bros. v. Union Oil Co. of California, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987). The identical invention must be shown in as complete detail as contained in the...claim." Richardson v. Suzuki Motor Co., 868 F.2d 1226, 1236, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989). "The elements must be arranged as required by the claim..." In re

Bond, 910 F.2d 831, 15 USPQ2d 1566 (Fed. Cir. 1990). Further, in the event that the Office Action is relying on the theory of inherency in any manner, “the Examiner must provide a basis in fact and/or technical reasoning to reasonably support the determination that the allegedly inherent characteristic necessarily flows from the teachings of the applied art.” *Ex parte Levy*, 17 USPQ2d 1461, 1464 (Bd. Pat. App. & Inter. 1990) (emphasis in original). See also MPEP 2112. Fukuzaki does not explicitly or inherently teach every element of independent claim 30, therefore, Fukuzaki does not anticipate claim 30. Accordingly, Applicants submit that claim 30 is patentable over Fukuzaki.

#### **5. Rejection of Claims 1-3 and 5-29 under 103(a)**

Claims 1-3 and 5-29 have been rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent 6,888,538 to Ely et al. (hereinafter “Ely”) in view of U.S. Patent 6,396,005 to Rodgers et al. (hereinafter “Rodgers”). Applicants respectfully traverse this rejection for the following reasons.

##### **Independent Claim 1**

The Examiner cites Ely as allegedly teaching Applicants’ “plurality of transmission coils,” “plurality of sensor coils,” “signal transmission means,” “reception means,” and “position detection means.” See Office Action of October 29, 2007, page 6. However, Applicants note that there are several differences between Ely’s device and the device being claimed by Applicants, as noted in the personal interview of July 25, 2007.

First, Applicants note that Ely only shows a single transmission coil 29 in FIG. 3. Indeed, the Examiner cited this single “excitation winding” as allegedly teaching Applicants’ “a plurality of transmission coils for transmitting a position pointer exciting signal to the position pointer.” However, Ely’s single excitation winding is not “a plurality of transmission coils.” To the extent that the Examiner is interpreting each turn in the excitation winding 29 as a separate “coil,” Applicants note that this interpretation is contrary to the well known definition of a coil. Moreover, this interpretation is also contrary to the meaning of “coil” as used throughout Applicants’ specification. Indeed, FIGS. 4-6 of Applicants’ specification show a plurality of coils. Therefore, Applicants

submit that there is no support for the unreasonably broad interpretation of Fukuzaki's excitation winding 29 as Applicants' "a plurality of transmission coils."

Second, Ely does not teach or suggest "signal transmission means for selecting one of the plurality of transmission coils in accordance with the position of the position pointer indicated by the position indicating signal and for driving the selected transmission coil so as to transmit the position pointer exciting signal to the position pointer," as recited in independent claim 1. Even if Ely's single excitation winding 29 could be interpreted as "a plurality of transmission coils," each of the turns in the winding 29 are connected to one another and therefore cannot be selected one by one "for driving ...to transmit the position pointer exciting signal." In other words, Ely's device cannot and does not select one of the turns of the excitation winding 29 for transmission.

On the contrary, as described in column 10, lines 32-64 of Ely, the excitation winding 29 includes five turns of rectangular conductor "connected in series," meaning that if current flows through one turn, current also flows through the other four turns. That is, the excitation current flows through all the turns in the excitation winding 29 and generates an electromagnetic field which magnetically couples with the resonant circuit 41, as indicated by arrow 39-1. See column 6, lines 42-50 of Ely. Because each of the turns of Ely's excitation winding 29 are connected in series to be driven together, these turns cannot be selected one by one for driving. Therefore, Ely also fails to teach "signal transmission means *for selecting one of the plurality of transmission coils* in accordance with the position of the position pointer indicated by the position indicating signal and for *driving the selected transmission coil so as to transmit the position pointer exciting signal to the position pointer*," as recited in independent claim 1.

The Examiner cites elements 39-2, 39-3, 39-4, and 39-5 as allegedly teaching Applicants' "signal transmission means." However, these elements represent magnetic couplings from the resonator 41 to the sensor windings 31, 33, 35, and 37 for indicating the position of the position indicator. See column 6, lines 49-55 of Ely. It is entirely unclear to the Applicants how the Examiner is interpreting these magnetic couplings 39-2, 39-3, 39-4, and 39-5 from the position indicator to the sensor windings 31, 33, 35, and 37 as Applicants' "signal transmission means for selecting one of the plurality of

transmission coils in accordance with the position of the position pointer indicated by the position indicating signal and for driving the selected transmission coil so as to transmit the position pointer exciting signal to the position pointer,” as recited in independent claim 1. These magnetic couplings 39-2, 39-3, 39-4, and 39-5 do not “select[ing] one of the plurality of transmission coils” nor do they “driv[ing] the selected transmission coil so as to transmit the position pointer exciting signal...” These magnetic couplings 39-2, 39-3, 39-4, and 39-5 only drive the sensor windings 31, 33, 35, and 37 so that the position of the resonator 41 can be determined accordingly. Therefore, Applicants respectfully submit that the Examiner’s position that the magnetic couplings 39-2, 39-3, 39-4, and 39-5 shown in FIG. 3 of Ely teach Applicants’ “signal transmission means” is not supported by Ely. Ely does not teach or suggest Applicants’ “a plurality of transmission coils” and “signal transmission means for selecting one of the plurality of transmission coils...and for driving the selected transmission coil so as to transmit the position pointer exciting signal,” as recited in independent claim 1.

Moreover, no portion of Ely teaches or suggests selecting one of the plurality of transmission coils “in accordance with the position of the position pointer indicated by the position indicating signal,” as recited in independent claim 1.

The Examiner acknowledges on page 7 of the Office Action of October 29, 2007 that Ely does not disclose “wherein, depending on a relative spatial relationship between the selected transmission coil and the position of the position pointer detected by the position detection means, the signal transmission means drives the selected transmission coil such that the phase of the position pointer exciting signal supplied to the position pointer is maintained without being inverted.” The Examiner cites Rodgers as allegedly teaching this feature.

As an initial matter, Applicants note that regardless of whether Rodgers teaches this feature, Ely and Rodgers, either alone or in combination with one another, fail to teach or suggest “a plurality of transmission coils” and “signal transmission means for selecting one of the plurality of transmission coils...and for driving the selected transmission coil so as to transmit the position pointer exciting signal,” as recited in independent claim 1 for the reasons set forth above.

Moreover, Rodgers does not teach the remaining features of claim 1. The Examiner cites FIG. 4B and column 5, lines 42-44 of Rodgers as allegedly suggesting “wherein, depending on a relative spatial relationship between the selected transmission coil and the position of the position pointer detected by the position detection means, the signal transmission means drives the selected transmission coil such that the phase of the position pointer exciting signal supplied to the position pointer is maintained without being inverted.” However, FIG. 4B shows signals detected by three different serpentine sensor antennas 402, 404, and 406 of a course resolution grid 110. *See* column 10, lines 5 to 14 of Rodgers. According to Rodgers, the course resolution grid 110 is used to determine the position of a transducer 114 by sensing electromagnetic interactions. *See* column 6, lines 37 to 49. Thus, the signals shown in FIG. 4B are not a “position pointer exciting signal,” as recited in claim 1, because these signals are actually received *from the transducer*, and are not being transmitted thereto. Because the signals shown in FIG. 4B are not a “position pointer exciting signal,” FIG. 4B fails to teach “wherein ... the phase of the position pointer exciting signal supplied to the position pointer is maintained without being inverted,” as recited in independent claim 1 of Applicants’ invention.

Additionally, the passage in column 5, lines 42-44 of Rodgers, which was cited by the Examiner, states that “It is an advantage of the invention that the tablet cost and complexity is reduced, and grid accuracy is enhanced or maintained.” It is entirely unclear how this passage supports the Examiner’s position. Rodgers does not teach selecting from more than one transmission coil, nor does Rodgers make any teaching or suggestion relating to “the phase of the position pointer exciting signal.” Therefore, contrary to the Examiner’s position, Rodgers fails to teach “wherein, depending on a relative spatial relationship between the selected transmission coil and the position of the position pointer detected by the position detection means, the signal transmission means drives the selected transmission coil such that the phase of the position pointer exciting signal supplied to the position pointer is maintained without being inverted,” as recited in claim 1. Ely and Rodgers, either alone or in combination with one another, fail to teach each of the features of claim 1. Therefore, claim 1 is not rendered obvious by the references cited.



### Independent Claim 9

Independent claim 9 recites some features that are similar to features of independent claim 1, for example, “a plurality of transmission coils for transmitting a position pointer exciting signal to the position pointer” and “signal transmission means for selecting one of the plurality of transmission coils in accordance with the position of the position pointer indicated by the position indicating signal and for driving the selected transmission coil so as to transmit the position pointer exciting signal to the position pointer.” As set forth above in the discussion of claim 1, Ely clearly does not teach or suggest these features. Rodgers does not teach or suggest these features either. Therefore, independent claim 9 is not rendered obvious by the references cited above.

Additionally, Applicants note that the Examiner previously agreed in the personal interview of July 25, 2007 that Ely does not teach each of the features of independent claim 9, which is contrary to the Examiner’s current position. Thus, for this additional reason, Applicants respectfully request that the Examiner withdraw this rejection.

### Independent Claim 17

Independent claim 17 recites some features that are similar to features of independent claim 1, for example, “a plurality of transmission coils for transmitting a position pointer exciting signal to the position pointer...” and “signal transmission means for selecting one of the plurality of transmission coils in accordance with the position of the position pointer indicated by the position indicating signal and for driving the selected transmission coil ...” As set forth above in the discussion of claim 1, Ely clearly does not teach or suggest these features. Rodgers does not teach or suggest these features either. Therefore, independent claim 17 is not rendered obvious by the references cited above.

Additionally, Applicants note that the Examiner previously agreed in the personal interview of July 25, 2007 that Ely does not teach each of the features of independent claim 17, which is contrary to the Examiner’s current position. Thus, for this additional reason, Applicants respectfully request that the Examiner withdraw this rejection.

Furthermore, independent claim 17 specifies the additional features of claim 17: “each of said plurality of transmission coils comprising a resonant circuit tuned to

resonate at a selected frequency” and the “selected transmission coil [is driven] with a pulsed carrier signal at said selected resonant frequency.” Yet, the Examiner maintains that:

“Regarding claims 17-20, limitations within these claims are identical to claims 1-4 respectively, except the subject matter is a power conserving position detector instead of position detection system. Therefore, the same rejections apply to these claims.”

The Examiner has apparently ignored and failed to address the additional features “each of said plurality of transmission coils comprising a resonant circuit tuned to resonate at a selected frequency” and the “selected transmission coil [is driven] with a pulsed carrier signal at said selected resonant frequency.” Accordingly, Applicants submit that this rejection is not proper, and the Examiner has not made a prima facie case of obviousness for independent claim 17. Furthermore, Applicants submit that neither Ely nor Rodgers teaches or suggests the features that were not addressed by the Examiner. Therefore, independent claim 17 is not rendered obvious by the references cited.

#### Independent Claim 25

With reference to independent claim 25, the Examiner only cites Ely, without any reference to Rodgers. Although claim 25 is included in the 103(a) rejection allegedly based on Ely and Rodgers, the Examiner’s position appears to be that Ely discloses each and every feature recited in independent claim 25.

The Examiner cites FIG. 8D as allegedly teaching “the transmission coil being arranged in the sensor area in an overlapping manner with sensor coils.” See Office Action of October 29, 2007, page 11. However, Applicants note that Figure 8D does not show any transmission coils. Instead, FIG. 8D only shows the sensor winding 133. See column 14, lines 3-8 and column 4, lines 3-6 of Ely. Contrary to the Examiner’s position, FIG. 8D of Ely, which only shows the sensor winding 133, does not teach or suggest “the transmission coil being arranged in the sensor area in an overlapping manner with sensor coils.” In fact, Ely explicitly contradicts the Examiner in column 10, lines 53-55, which state that “the excitation winding 29 is wound around the outside of the sensor windings” (emphasis added). One of ordinary skill in the art would understand this portion of Ely to mean that the excitation winding 29 is not overlapping the sensor

windings. Thus, Applicants submit that Ely clearly does not teach “the transmission coil being arranged in the sensor area in an overlapping manner with sensor coils,” as recited independent claim 25.

Moreover, Ely also fails to teach “energizing the transmission coil with a pulsed carrier signal at the selected transmission coil resonant frequency for inducing current in the transmission coil in a first direction when the position pointer is detected in a first region of the sensor area and inducing current in the transmission coil in a second direction when the position pointer is detected in a second region of the sensor area,” as recited in independent claim 25. For this feature, the Examiner simply cites FIG. 3, element 39-1 and FIG. 8D, without further comment or explanation as to how these portions of Ely teach or suggest these features of independent claim 25. Applicants respectfully note that it is difficult to understand the Examiner’s position without any explanation of how Ely is being applied to these features. Moreover, Ely does not teach these features.

Applicants also respectfully note that it is the Examiner’s burden to establish a prima facie case of obviousness, before the burden shifts to the Applicants to rebut the prima facie case of obviousness. *See* MPEP 2142. The Examiner has not provided any evidence that Ely teaches each of the features of independent claim 25, therefore, the Examiner has not met the burden of establishing a prima facie case of obviousness. As a result, the present rejection is improper.

#### Dependent Claims 2-3, 5-8, 10-16, 18-24, and 26-29

Regarding claims 2-3, 5-8, 10-16, 18-24, and 26-29, it is respectfully submitted that for at least the reason that claims 2-3, 5-8, 10-16, 18-24, and 26-29 depend from allowable independent claims 1, 9, 17, and 25 and therefore contain each of the features as recited in these claims, claims 2-3, 5-8, 10-16, 18-24, and 26-29 are therefore also patentable over the references relied on by the Examiner.

## 6. Conclusion

It is respectfully submitted that a full and complete response has been made to the outstanding Office Action and, as such, there being no other objections or rejections, this application is in condition for allowance, and a notice to this effect is earnestly solicited.

If the Examiner believes, for any reason, that personal communication will expedite prosecution of this application, the Examiner is invited to telephone the undersigned at the number provided below.

It is believed that no fee is due with this amendment. If any further fees are required in connection with the filing of this amendment, please charge the same to our Deposit Account debit Account 50-0548.

Respectfully submitted,

A handwritten signature in black ink, appearing to read 'D. Valencia', written over a horizontal line.

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